

REMARKS

The Applicants wish to express gratitude towards the Examiner for the courtesy extended to the Applicants' attorney during a telephonic interview on March 30, 2004. Claims 1-14 are pending in the application and have been rejected. Claim 1 has been amended to recite that the tie layer is extruded and that the tie layer, thermoplastic sheet, shrink film and reinforcing grid are laminated. Support for this amendment can be found on page 2, lines 20-23. Claim 1 has also been amended to include the tie layer thickness. Support for this amendment can be found on page 10, lines 9-11.

RESPONSE TO REJECTION UNDER 35 U.S.C. § 112

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claims 1-14 are also rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that the claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, has possession of the claimed invention.

Claim 1 has been amended to recite that the tie layer is extruded and that the tie layer, thermoplastic sheet, shrink film and reinforcing grid are laminated. During the extrusion lamination process, an elastomeric material is extruded from a die to form a tie layer. A reinforcing grid is embedded in the tie layer, and the tie layer with the reinforcing grid is sandwiched between two thermoplastic sheets. The entire assembly is then laminated by passing it through a pair of rolls under a certain nip pressure. See page 2, lines 20-23. Figure 1 also illustrates an extrusion lamination setup for making the reinforced shrink wrap embodiments of the invention. To one of ordinary skill in the art, extrusion laminating, also called sandwich laminating, is a process related to extrusion coating. However, the extrusion coated layer is used as an adhesive layer between two or more substrates. A second layer is applied to the extrusion coating **while it is still hot** and then the sandwich is pressed together by pressure rolls. Therefore, both heat and pressure are applied to all the layers insuring the reinforcing grid is held by the elastomeric tie layer between the two thermoplastic sheets.

The Applicant has amended claim 1 to definitively point out and claim the subject matter which applicants regard as the invention. The Applicant has also shown support for this amendment. Therefore, Applicant respectfully asks the Examiner to remove 35 U.S.C. § 112 rejections.

RESPONSE TO REJECTION UNDER 35 U.S.C. § 103 (a)

Claims 1-4 and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynne et al (US 5328743; of record) in view of Ikeda (US 6214476; of record) and Wynne et al. (US 5773373; of record), or alternatively Ikeda in view of Wynne '743 and Wynne '373.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP 2143.

The Examiner states it would have been obvious to the skilled artisan at the time of the invention to coat the shrink film and thermoplastic sheet of Wynne '743 by extruding the elastomeric adhesive layer of Wynne '743 between the shrink film and thermoplastic sheet to laminate the same because such is known in the art, as taught by Ikeda (column 1, lines 8-15; column 13, line 24), and it eliminates the need for separate coating and laminating steps thereby expediting the manufacturing process.

The Examiner further states that the skilled artisan would have especially been motivated to combine the teachings of Wynne '743 and Ikeda in light of the fact that it is known to extrude an elastomeric tie layer between pre-formed thermoplastic layers, wherein one of the thermoplastic layers has a reinforcing grid thereon, such that the grid becomes embedded within the tie layer, as taught by Wynne '373 (Figures 1-2; column 4, lines 11-12; column 6, lines 9-10).

The Applicant submits that before the invention was made, there existed a belief in the art that a shrink film could not be laminated with other layers in a typical extrusion

lamination process. This is due to the concern that the processing conditions in a typical extrusion lamination process may cause the shrink film to shrink during the lamination process. Contrary to the conventional belief in the art, the Applicants found that shrink films can be laminated with other layers in an extrusion-lamination process under certain conditions including the thicknesses of the tie layer. Therefore, the Applicants went against conventional wisdom and produced an extrusion-laminated reinforced shrink wrap with improved tensile properties. The totality of the prior art must be considered, and **proceeding contrary to accepted wisdom in the art is evidence of nonobviousness**. (emphasis added) *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986). Furthermore, "[k]nown disadvantages in old devices which would naturally discourage search for new inventions may be taken into account in determining obviousness." *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966). See MPEP § 2145 X.

Claim 1 has been amended to recite the thickness of the tie layer is about 15-25% of the overall thickness of the reinforced shrink wrap. Applicant has discovered that when the thickness of the tie layer does not exceed a certain value, the shrink film will not start to shrink during the lamination process. The exact maximum thickness value varies, depending on the process conditions and the type of materials used. *See page 5, paragraph [22] lines 25 – page 6, line 1*. The thickness of the tie layer must be controlled so that the shrink film will not start to shrink substantially during lamination.

Furthermore, the claimed process, including the thickness of the tie layer, results in improved properties in the reinforced shrink wrap that are not expected from the prior art. There is no suggestion either in Ikeda or Wynne, that the tie layer thickness during extrusion should be maintained to insure that shrinkage does not begin during the process. The thickness of the extruded adhesive layers of Ikeda are outside the range of claim 1. Ikeda discloses in Method A that the adhesive layer is 28 or 30% of the overall thickness and in Method B that each of the adhesive layers are 7% of the overall thickness. If layers of this thickness were used in the claimed method, the shrink wrap would either begin shrinking in the apparatus or would not laminate all the layers to produce a stronger shrink wrap. Furthermore, if the references are combined, one would not arrive at the claimed invention since the unexpected result of the shrink wrap not beginning to shrink due to the thickness of the tie layer is not suggested in the

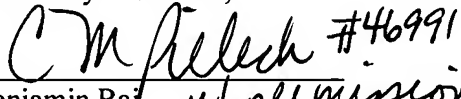
prior art. Since the reference does not disclose the importance of the thickness of the tie layer relative to when the shrink wrap would begin to shrink, no *prima facie* case of obviousness has been established. The claims, including the thickness of the tie layer, are commensurate with the scope of the invention.

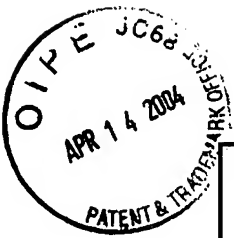
Since unexpected results have been shown when there was no reasonable expectation of success and Applicant went against accepted wisdom in the art, the prior art does not establish a *prima facie* case of obviousness. Therefore, claims 1-14 are patentable over prior art.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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